NIKOLAI
Health Clinic

Alaska Rural Primary Care Facility
Code and Condition Survey Report

July 23, 2001

I. EXECUTIVE SUMMARY

Overview

The Nikolai Clinic occupies about 525 s.f. of a large two story community building which was constructed in 1983. The building is a pre-engineered steel frame building that has been sheathed with conventional 2x6, insulated wall construction. There is no space in the building available for clinic expansion without displacing other community services including the post office and the library.

Renovation and Addition

The existing clinic is 525 s.f. and would require an addition of 1475 s.f. to meet the 2000 s.f. minimum area for a Medium clinic recommended by the Alaska Rural Primary Care Facility study. An addition would require the remodel of 100% of the interior space and would present difficult construction challenges. The cost of required renovations and code upgrades, combined with the cost of a new addition, equal 133% of the cost of a new clinic.

New Clinic

Because the cost of renovation and addition is more than 75% of the cost of new construction, a new clinic of at least 2000 s.f. should be built to replace the existing clinic. The community plan is laid out with a number of open lots in the central square. The community indicated a number of potential sites which were conveniently located and close to utilities available for new clinic development. A final decision regarding a new site location had not been reached at the time of the survey.

II. GENERAL INFORMATION

A. The Purpose of the Report

ANTHC has entered into a cooperative agreement with the Denali Commission to provide management of the small clinic program under the Alaska Rural Primary Care Facility (ARPCF) assessment, planning, design, and construction. The purpose of the Code and Condition Survey Report is to validate the data provided by the community in the Alaska Rural Primary Care Facility Needs Assessment and to provide each community with a uniform standard of evaluation for comparison with other communities to determine the relative need among the communities of Alaska for funding assistance for the construction of new or remodeled clinic facilities. The information gathered will be tabulated and analyzed according to a set of fixed criteria that will yield a priority list for funding. Additionally, the relative costs of new construction vs. remodel/addition will be evaluated to determine the most practical and cost effective means to bring the clinics up to a uniform standard of program and construction quality. The information provided in this report is one component of the scoring for the small clinic RFP that the Denali Commission sent to communities in priority Groups 1 and 2.

B. The Assessment Team

The survey for this village was completed on June 5, 2001 by John Crittenden, AIA, Architects Alaska and Ralph DeStefano, PE, RSA Engineering. Dan Williams, ANTHC and Theresa Gallagher, Tanana Chiefs Conference made introductions, reviewed alternative site locations, and conducted meetings with the users. Team members who assisted in the preparation of the report included Stephen Schwicht and Ian VanBlankenstein of NANA/DOWL, project managers for the survey team, and Jay Lavoie of Estimations, Inc.

C. The Site Investigation

The format adopted is similar to the "Deep Look", a facility investigation and condition report used by both ANTHC and the Public Health Service, in maintaining an ongoing database of facilities throughout the country. Facilities are evaluated with respect to the requirements of the governing building codes and design guidelines. Building code compliance, general facility condition, and program needs have been evaluated. This written report includes a floor plan of the clinic and a site plan indicating the existing clinic site. Additional information gathered during the site investigation that is referred to in the report, which includes sketches of building construction details, a building condition checklist, and proposed plans for village utility upgrades, are not included with this report. This information is available for viewing at ANTHC's Anchorage offices and will be held for reference.

III. CLINIC INSPECTION SUMMARY

A. Community Information

The community of Nikolai has a current population of 100 as published in the 2000 U.S. Census. It is located 46 air miles east of McGrath and is located in the Mt. McKinley Recording District. It is a part of the Doyon Regional Corporation. Refer to the attached Alaska Community Database prepared by the Alaska Department of Community and Economic Development in Appendix C.

B. General Clinic Information

The Nikolai Clinic is a small clinic with a gross area of about 525 s.f. The clinic is located on the first floor of a two-story community building. Other tenants of the building include a library, a post office, a small laundry and toilet rooms on the first floor and a community meeting room/fry kitchen and community offices on the second floor. Interviewed during the visit were Annie John, an itinerant health care worker and John Runcle who built the clinic building in 1983.

C. Program Deficiency Narrative

The existing program consists of one exam room, a medical supply/office/lab, a small receptionist room with a medical supply closet, and a waiting area. The toilet/shower is across the hall and requires a key for access. The clinic has a full time clinic manager and an aide. The clinic provides the minimum services, however, it is an active program and the services appear to be extensively used. The primary program deficiency is a severe shortage of necessary space.

The following table illustrates a comparison between the current actual square footage (SF) and the ARPCF recommended area of 2000 s.f. for a Medium clinic.

Table 1 – ARPCF Clinic Area Comparison

Purpose/Activity	#	Existing Net SF	#	ARPCF Medium	Difference
Arctic Entry	-	-	2	@ 50 =100	100
Wait/Recep/Closet	1	130	1	150	20
Trauma/Telemed/Exam	2	120	1	200	80
Office/Exam	1	120	1	150	30
Admin./Records	2	85	1	110	25
Pharmacy/Lab		-	1	80	80
Portable X-ray		-		-	-
Spec. Clinic/Health Ed./Conf.		-	1	150	150
Patient Holding/Sleep Room		-	1	80	80
Storage	1	22	1	100	78
HC toilet	1	72	2	@ 60 =120	48
Janitorial Closet		-	1	30	30
Total Net Area				1270	
Mechanical Room		-		147	147
Morgue/Ancillary				30	30

The Nikolai Clinic is 525 s.f and would require an addition of 1475 s.f. to comply with the ARPCF study minimum area of 2000 s.f. for a Medium clinic.

An analysis of the existing building's program functions follows. Please also refer to the floor plan in Section H:

- **Arctic Entries**: The clinic uses the community building corridor as an arctic entry.
- **Waiting:** The clinic has a small waiting area that accommodates about 4-5 persons.
- **Trauma/Telemed/Exam:** Only one exam room is currently set up for patients. It also contains all the equipment. No telemed equipment was found in the clinic.
- **Office/Exam:** One exam room is used, of necessity, primarily as an office/med/lab.
- **Administration/Records:** A small reception area serves an a workstation, however, it is furnished with two conventional secretary desks which do not make good use of the limited space. The door to a small storage closed occupies another part of this space.

- **Pharmacy/Lab:** See Office/Exam.

- **Specialty Clinics:** No space is provided for specialty clinics.

- **Patient Holding/Sleep:** None provided in the clinic.

- **Storage:** A very small storage closet contains medical supplies (4' x 4'). Access to this space is awkward, as it requires passage through the small reception area.

- **HC Toilet Room:** One of the main floor toilets in the community building is locked and maintained for use by the clinic. It contains a shower and is a functional space, but not fully ADA accessible.

- **Janitor Closet:** None in the clinic. The custodian has a room available elsewhere for building maintenance.

- **Ancillary Spaces:** There are no ancillary spaces in this clinic.

D. Architectural/Structural Condition

The Nikolai Clinic occupies a corner of the first floor of a two-story steel frame building which is enclosed with a 2x6 frame wall. The structural columns are furred out along the inside of the exterior wall. The steel frame is a braced steel frame with moment resisting trusses at the second floor roof. The roof of the building consists of girts overlain by a plywood deck with adhered 6" rigid foam insulation and an applied ribbed metal roofing. The interior of the roof is furred with 2x4's at 16" o.c. with a gypsum board ceiling finish sloped to match the girt slope. The trusses are furred out. The building has a vapor retarder. The foundation consists of perimeter stem walls on buried footings, the interior supports for the floor consist of partially buried 55 gallon drums filled with concrete, located on 8 and 10 foot centers. The floor framing is minimal, consisting of 2x6's at 16" o.c. with a double plywood floor, however, the short spans appear to accommodate the floor loads. An addition to the two-story building would be impractical as it was originally constructed as a braced steel frame building, with a frame shell. This type of construction would be difficult to add to and the construction problems would be difficult to solve.

E. Site Considerations

Although the clinic could expand within the existing building if the post office and library were relocated to new buildings, this is not the community's preferred option. The preferred option for the community is to relocate the clinic to a new structure. A new site in the vicinity of the existing building is recommended. There is considerable cleared land in the area and foundation material appears to be suitable for bearing, given proper depth of bury and appropriate backfill material. There is gravel fill available locally for construction.

Site utilities include an on site well, community septic system, and village supplied power and telephone service.

F. Mechanical Condition

Heating and Fuel Oil: Two forced air furnaces located in a mechanical space on the first floor provide heating for the community building and clinic space. One furnace is dedicated to the first floor, including the clinic, and the other to the second floor. Supply ducts serving the clinic are routed in an almost non-accessible shallow crawl space. The return is not ducted and it is routed via wall openings from the corridor into the mechanical room. The return air from the first and second floors are common, so odors from cooking on the second floor are often recirculated through the clinic. The furnaces both appear to be close to the end of their useful lives and should soon be replaced. Fuel oil is provided to the community building furnaces and hot water heater from a 550-gallon, single walled tank mounted on a steel stand located adjacent to the building. The fuel tank is located too close to the building, is not properly supported and is not vented. There are a number of code deficiencies related to the furnaces and mechanical rooms as well as the fuel system more information refer to the Deficiency Evaluation and Cost Assessment Forms.

Ventilation: There is no mechanical ventilation or exhaust for the clinic. The furnaces do not have an outside air connection and the bathroom exhaust fan had been removed. The only source of ventilation for the occupied spaces is though operable windows.

Plumbing: Water is obtained by an onsite well. A fuel fired hot water heater located in the mechanical room generates hot water for the community building and clinic. A three-inch waste line from the building gravity flows to the community septic system. Plumbing fixtures located in the clinic include double bowl sinks in each exam room. The restroom for the clinic is located in the adjacent hallway; the restroom has a toilet, lavatory and shower, none of which meet ADA requirements. There is no mop sink in the clinic or community building.

G. Electrical Condition

Power: Power for the community building and clinic space is provided by 120/240-volt overhead service. The meter base is grounded to a grounding rod located below the building but there is no main breaker after the meter. There are four panels serving areas in the building, but there is no MDP (main distribution panel) found that subfeeds the four panels. The electrical power system for the facility is generally in poor condition and is a safety hazard. Specific wiring and other electrical deficiencies are listed in the Deficiency Evaluation and Cost Assessment Forms. The number of electrical receptacles in the clinic appeared to be appropriate. There were no plug strips in use. There were no GFCIs in the restroom or next to the exam room sink. No receptacles were installed on the outside of the building.

Lighting and Emergency Fixtures: Surface mounted florescent fixtures using two 4-ft. 35-watt F40 bulbs provide interior lighting for the clinic. The lighting levels were notably low. Exterior lighting was provided with incandescent fixtures at the entrances only. No emergency light fixtures or emergency exit signs were provided in the clinic. Emergency lighting was provided in the corridor outside of the clinic. The fire alarm system consists of a single battery operated smoke detector installed in the clinic.

Telecommunications: The telecommunication system includes two phone lines serving the clinic. A Telemed system had not yet been installed in the clinic.

H. Existing Facility Floor Plan

See following sheet for the floor plan of the existing clinic.

J. Community Plan

Refer to the attached community plan for location of the existing clinic and the proposed location for the new clinic. If the existing clinic site is the preferred location or if a new site has not yet been selected, only the existing clinic location will be shown.

IV. DEFICIENCY EVALUATION AND COST ASSESSMENT

The attached deficiency reporting forms are based on Public Health Service form AK H SA-43. The forms are numbered sequentially for each discipline starting with **A01** for Architectural and structural deficiencies, **M01** for Mechanical deficiencies and **E01** for Electrical deficiencies.

A. Deficiency Codes

Deficiencies are further categorized according to the following PHS Deficiency codes to allow the work to be prioritized for federal funding, should that apply. Deficiency codes used in this survey include:

02 **Fire and Life Safety:** These deficiencies identify areas where the facility is not constructed or maintained in compliance with provisions of the state mandated building codes including the International Building Code, The Uniform Fire Code, NFPA 101, The Uniform Mechanical and Plumbing Codes and The National Electrical Code.

03 **Safety:** These deficiencies identify miscellaneous safety issues.

04 **Environmental Quality:** This addresses DEC regulations, hazardous materials and general sanitation.

05 **Program Deficiencies:** These are deficiencies which show up as variations from space guidelines established in the Alaska Primary Care Facility Facility Needs Assessment Project and as further evaluated through observation at the facility site and documented in the facility floor plans.

07 **Disability Access Deficiencies:** The items with this category listing are not in compliance with the Americans with Disabilities Act.

08 **Energy Management:** These deficiencies address the efficiency of heating systems/fuel types and the thermal enclosures of buildings.

11 **Structural Deficiencies:** These are deficiencies with the fabric of the building. It may include the foundations, the roof or wall structure, the materials used, the insulation and vapor retarders, the attic or crawl space ventilation and the general condition of interior finishes. Foundation systems are included in this category.

12 **Mechanical Deficiencies:** These are deficiencies in the plumbing, heating, ventilating, air conditioning, or medical air systems.

13 **Electrical Deficiencies:** These are deficiencies with electrical generating and distribution systems, fire alarm systems and communications systems.

14 **Utilities:** This category is used for site utilities, as opposed to those within the building and may include sewer lines and water and power distribution.

B. Photographs

Each sheet has space for a photograph. Some deficiencies do not have photos. Photographs do not cover all areas where the deficiencies occur but are intended to provide a visual reference to persons viewing the report who are not familiar with the facility. Additional photographs of the clinic and the surrounding area are included in Appendix B.

C. Cost Estimate General Provisions

New Clinic Construction

- **Base Cost**

The Base Cost provided in Section VI of this report is the direct cost of construction, inclusive of general requirements (described below) and contingency for design unknowns (an estimating contingency) The base cost is exclusive of overhead and profit, mark-ups, area cost factors and contingencies. Material costs for the project are all calculated FOB Anchorage and labor rates are based on Davis Bacon wages, regionally adjusted to Anchorage. Transportation costs, freight, Per Diem and similar costs are included in the base costs. The Project Factors and Area Cost Factor are multipliers of the base costs.

General Requirements are based on Anchorage costs without area adjustment. It is included in the Base Cost for New Clinics. These costs are indirect construction cost not specifically identifiable to individual line items. It consists of supervision, materials control, submittals and coordination, etc. The general requirements factor has not been adjusted for Indian Preference.

The Design Unknowns Contingency is an estimator's contingency based on the schematic nature of the information provided, the lack of any real design, and the assumption that any project will encompass related work not specifically mentioned.

- **Project Cost Factors**

  Equipment Costs for new medical equipment has been added at 17% of the cost of new floor space.

  Design Services is included at 10% to cover professional services including engineering and design.

  Construction Contingency is included at 10% of the Base Costs to cover changes encountered during construction.

  Construction Administration has been included at 8% of the Base Costs. This is for monitoring and administration of the construction contract.

- **Area Cost Factor**

The Area Cost Factor used in the cost estimates for this facility is shown in Section VI of this report. The area cost factors are taken from a recent study completed for the Denali Commission for statewide healthcare facilities. The numbers are the result of a matrix of cost variables including such items as air travel, local hire costs, room and board, freight, fire protection equipment, foundation requirements, and heating equipment as well as contractor costs such as mobilization, demobilization, overhead, profit, bonds and insurance. These parameters were reconsidered for each village, following the site visit, and were modified, if necessary.

- **Estimated Total Project Cost of New Building**

This is the total estimated cost of the project, including design services. The construction contract will be work subject to Davis Bacon wages, and assumes construction before year-end 2001. No inflation factor has been applied to this data.

Remodel, Renovations, and Additions

- **Base Cost**

The Base Cost provided in the specific deficiency sheets is the direct cost of construction, exclusive of overhead and profit, mark-ups, area cost factors and contingencies. Material costs for the project are all calculated FOB Anchorage and labor rates are based on Davis Bacon wages, regionally adjusted to Anchorage. Most of the deficiency items do not constitute projects of sufficient size to obtain efficiency of scale. The estimate assumes that the projects are completed either individually, or combined with other similar projects of like scope. The numbers include moderate allowances for difficulties encountered in working in occupied spaces and are based on remodeling rather than on new construction costs. Transportation costs, freight, Per Diem and similar costs are included in the base costs. The General Requirements, Design Contingency and Area Cost Factors are multipliers of the base costs.

The cost of Additions to clinics is estimated at a unit cost higher than New clinics due to the complexities of tying into the existing structures.

Medical equipment is calculated at 17% of Base Cost for additions of new space only and is included as a line item in the estimate of base costs.

- **General Requirements Factor**

General Requirements Factor is based on Anchorage costs without area adjustment. The factor is 1.20. It is multiplied by the Base Cost to get the project cost, exclusive of planning, architecture, engineering and administrative costs. This factor assumes projects include multiple deficiencies, which are then consolidated into single projects for economies of scale. The general requirements factor has not been adjusted for Indian Preference.

- **Area Cost Factor**

The Area Cost Factor used in the cost estimates for this facility is shown in Section VI of this report. The area cost factors are taken from a recent study completed for the Denali Commission for statewide healthcare facilities. The numbers are the result of a matrix of cost variables including such items as air travel, local hire costs, room and board, freight, fire protection equipment, foundation requirements, and heating equipment as well as contractor costs such as mobilization, demobilization, overhead, profit, bonds and insurance. These parameters were reconsidered for each village, following the site visit, and were modified, if necessary.

- **Contingency for Design Unknowns (Estimating Contingency)**

The Design Unknowns Contingency is an estimator's contingency based on the schematic nature of the information provided, the lack of any real design, and the assumption that any project will encompass related work not specifically mentioned. The factor used is 1.15.

- **Estimated Total Cost**

This is the total estimated bid cost for work completed under Davis Bacon wage contracts, assuming construction before year-end 2001. This is the number that is entered in the front of the deficiency form. No inflation factor has been applied to this data.

- **Project Cost Factors**

Similar to new clinics, the following project factors have been included in Section VI of this report.

Design Services is included at 10% to cover professional services including engineering and design.

Construction Contingency is included at 10% of the Base Costs to cover changes encountered during construction.

Construction Administration has been included at 8% of the Base Costs. This is for monitoring and administration of the construction contract.

- **Estimated Total Project Cost of Remodel/Addition**

This is the total estimated cost of the project including design services, the construction contract cost for work completed under Davis Bacon wages and assuming construction before year-end 2001. No inflation factor has been applied to this data.

V. SUMMARY OF EXISTING CLINIC DEFICIENCIES

The attached table summarizes the deficiencies at the clinic and provides a cost estimate to accomplish the proposed modifications. If all deficiencies were to be addressed in a single construction project there would be cost savings that are not reflected in this tabulation. The total cost of remodel/addition shown in Section VI is intended to show an overall remodel cost that reflects this economy. Refer to Section VI for a comparison of remodel/addition costs to the cost of new construction. The specific deficiency sheets are included in Appendix A.

VI. NEW CLINIC ANALYSIS

The decision on whether to fund new clinic construction or a remodel/addition of the existing clinic is to be determined by comparing the cost of a new facility designed to meet the program requirements of the Alaska Rural Primary Care Facilities minimum area requirements with the projected combined cost of renovating, remodeling and adding onto the existing building to provide an equivalent facility. If the cost of the remodel/addition project is greater than 75% of the cost of constructing an altogether new facility then a new facility is recommended. That ratio is computed as follows:

- **The cost of a new clinic in Nikolai is projected to be:**

Base Anchorage Cost per s.f.		$183/ s.f.
Medical Equipment Costs @ 17%		$31
Design Services 10%		$18
Construction Contingency 10%		$18
Construction Administration. 8%		$15
Sub-total		$265/ s.f.
Area Cost Factor for Nikolai	1.41*	
Adjusted Cost per s.f.		$373/ s.f.

Total Project Cost of NEW BUILDING 2,000 x $373 = $746,000

- **The cost of a Remodel/Renovation/Addition is projected to be:**

Projected cost of code/condition renovations (From the deficiency summary)	
90% of cost of code/condition improvement**	$96,171 Renovation
Projected cost of remodeling work (See A08)	
525 s.f. clinic @ 100% remodel = 525 s.f.	$59,654 Remodel
Projected cost of building addition (See A09)	
2,000 s.f. – 525 s.f. = 1,475 s.f.	$621,777 Addition
Design 10%, Const. Contingency 10%, Const. Admin. 8%	$217,729

Total Project Cost of REMODEL ADDITION **$995,331**

- **Ratio of remodel:new is $995,331 : $746,000 = 1.33X**

The cost of a remodel/addition for this clinic would cost 133% the cost of a new clinic, therefore, a new clinic is recommended for this community.

* The Area Cost Factor was refined by Estimations, Inc. in July 2001 based on information obtained during the site visit.

** The 90% factor represents economy of scale by completing all renovation work in the same project.

Appendix A: SPECIFIC DEFICIENCIES LISTING

Refer to the attached sheets for the listing of the individual deficiencies and the corrective action recommended.

Appendix B: GENERAL SITE PHOTOGRAPHS

The following sheets provide additional photographic documentation of the existing building and surroundings.

Appendix C: ADCED Community Profile

Refer to the attached document prepared by Alaska Department of Community and Economic Development profiling the community of Nikolai.

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